

ANNEXURE - III

BLOCK-WISE LAND USE, 1981

Sl.No	Name of block	Total area of block	Land use (i.e., area under different types of land use in hectares round up to 2 decimal places)				
			Forest	Irrigated by source	Unirrigate	Culturable Waste (including gauchar and groves)	Area not available for cultivation
1	2	3	4	5	6	7	8
1	Barwadih	43525.21	21213.5	1002.02	8401.52	2743.38	17246.78
2	Garu	22298.07	14286.68	395.65	4798.38	1217.02	1600.34
3	Manika	37683.54	17713.5	965.57	11313.37	1325.86	6365.24
4	Chainpur	63943.4	25876.55	3007.63	212430.24	4404.72	9224.26
5	Mahuadanr	61955.54	26381.69	679.47	9119.06	1435.41	24339.91
6	Daltonganj	19205.16	4920.38	1753.58	8098.35	1135.16	3297.69

Source: Palamau District Census Handbook, 1981

ANNEXURE - IV

Forest Types Reported From Palamau Tiger Reserve

1. 3C/C₂e₍₁₎ Moist High Level Peninsular Sal
2. 3C/C₂e₍₁₎ Moist Peninsular Low Level Sal
3. 3C/2S₁ Northern Secondary Moist Deciduous Forest
4. 5B/C₁C Dry Peninsular Sal
5. 5B/C₂ Northern Dry Mixed Deciduous Forests
6. 5/E₆ Aegle Forests
7. 5/E₉ Dry Bamboo Brakes

Source: Management Plan of Palamau Tiger Reserve
(1987-88 to 1996-97)

ANNEXURE - V

LIST OF MAMMALS REPTILES AND FISHES REPORTED
FROM PALAMAU TIGER RESERVE

SL.NO	ENGLISH NAME	LATIN NAME
A. MAMMALS		
1.	Antelope, Four-horned	<i>Tetraceros quadricornis</i>
2.	Badger, Honey or Ratel	<i>Mellivora capensis</i>
3.	Bat, Fulvous Fruit	<i>Rousettus leschenaulti</i>
4.	Bat, Indian Flying Fox	<i>Pteropus giganteus</i>
5.	Bat, Short-nosed Fruit	<i>Cynopterus sphinx</i>
6.	Bear, Sloth	<i>Melursus ursinus</i>
7.	Bison, Indian or Gaur	<i>Bos gaurus</i>
8.	Boar, Indian Wild	<i>Sus scrofa</i>
9.	Cat, Jungle	<i>Felis chaus</i>
10.	Civet, Common Palm	<i>Paradoxurus hermaphroditus</i>
11.	Civet, Small India	<i>Viverricula indica</i>
12.	Deer, Barking or Muntjac	<i>Muntiacus muntjak</i>
13.	Deer, Mouse or Indian Chevrotain	<i>Tragulus meminna</i>
14.	Deer, Spotted or Chital	<i>Axis axis</i>
15.	Dog, Indian Wild	<i>Cuon alpinus</i>
16.	Elephant	<i>Elephas maximus</i>
17.	Fox, Indian	<i>Vulpes bengalensis</i>
18.	Gerbille, India	<i>Tatera indica</i>
19.	Hare, Indian	<i>Lepus nigricollis</i>
20.	Hyena, Striped	<i>Hyaena hyaena</i>
21.	Jackal	<i>Canis aureus</i>
22.	Langur, Common	<i>Presbytis entellus</i>
23.	Leopard or Panther	<i>Panthera pardus</i>
24.	Macaque, Rhesus	<i>Macaca mulatta</i>
25.	Mongoose, Common	<i>Herpestes edwardsi</i>
26.	Mongoose, Small Indian	<i>Herpestes auropunctatus</i>
27.	Mouse, Indian Field	<i>Mus booduga</i>
28.	Mouse, Long-tailed Tree	<i>Vendeleuria oleracea</i>
29.	Nilgai or Blue Bull	<i>Boselaphus tragocamelus</i>
30.	Pangolin, India	<i>Manis crassicaudata</i>
31.	Porcupine, Indian	<i>Hystrix indica</i>
32.	Rat, Bandicoot	<i>Bandicota indica</i>
33.	Rat, India Bush	<i>Golunda ellioti</i>
34.	Sambhar	<i>Cervus unicolor</i>
35.	Shrew, Grey Musk	<i>Suncus murinus</i>
36.	Squirrel, Indian Giant	<i>Ratufa indica</i>
37.	Squirrel, Three-striped Palm	<i>Funambulus palmarum</i>
38.	Tiger	<i>Panthera tigris</i>
39.	Wolf	<i>Canis lupus</i>

SL.NO ENGLISH NAME

LATIN NAME

B. REPTILES

SNAKES:

1	Boa, Red Sand	<i>Eryx johnii</i>
2	Cobra, Indian	<i>Naja naja naja</i>
3.	Cobra, King	<i>Ophiophagus hannah</i>
4	Karait, Banded	<i>Bungarus fasciatus</i>
5	Karait, Common	<i>Bungarus caeruleus</i>
6	Python, Indian	<i>Python molurus</i>
7	Snake, Rat	<i>Ptyas mucosus</i>
8	Viper, Russel	<i>Vipera russellii</i>

LIZARDS

1	Chamelion	<i>Chamelion calcarata</i>
2	Gecko, Indian House	<i>Hemidactylus flaviviridus</i>
3	Lizard, Rock	<i>Agama buberculatus</i>
4	Lizard, Monitor	<i>Varanus monitor</i>

C. FISHES

1	Bata	<i>Labeo bata</i>
2	Kalbasu	<i>Labeo kalbasu</i>
3	Katla	<i>Catla catla</i>
4	Magur	<i>Clarias batrachus</i>
5	Mirgal	<i>Cirrhina mrigala</i>
6	Rohu	<i>Labeo rohita</i>

ANNEXURE - VI

LIST OF BIRDS FOUND IN THE PALAMAU TIGER RESERVE

Sl.No.	English Name	Latin Name
1.	Babbler, Common	<i>Turdoides caudatus</i>
2.	Babbler, Jungle	<i>Turdoides striatus</i>
3.	Babbler, Quaker	<i>Alcippe poioicephala</i>
4.	Babbler, Rufous-bellied	<i>Dumetia hyperythra</i>
5.	Babbler, Slaty-headed Scimitar	<i>Pomatorhinus schisticeps</i>
6.	Babbler, Spotted	<i>Pellorneum ruficeps</i>
7.	Babbler, Yellow-eyed	<i>Chrysomma sinense</i>
8.	Babbler, Large Grey	<i>Turdoides malcolmi</i>
9.	Barbet, Blue-throated	<i>Megalaima asiatica</i>
10.	Barbet, Crimson-breasted or Copper Smith	<i>Megalaima haemacephala</i>
11.	Bee-eater, Blue-tailed	<i>Merops philippinus</i>
12.	Bee-eater, Chestnut-headed	<i>Merops leschenaulti</i>
13.	Bee-eater, Small Green	<i>Merops orientalis</i>
14.	Bird, Black	<i>Turdus merula</i>
15.	Bird, Tailor	<i>Orthotomus sutorius</i>
16.	Bittern, Chestnut	<i>Ixobrychus cinnamomeus</i>
17.	Bittern, Little Green	<i>Butorides striatus</i>
18.	Bulbul, Red-vented	<i>Pycnonotus cafer</i>
19.	Bulbul, Red-whiskered	<i>Pycnonotus jocosus</i>
20.	Bushchat, Pied	<i>Saxicola caprata</i>
21.	Buzzard, White-eyed	<i>Butastur teesa</i>
22.	Chloropsis, Goldfronted or Green Bulbul.	<i>Chloropsis aurifrons</i>
23.	Chloropsis, Goldmantled	<i>Chloropsis cochinchinensis</i>
24.	Crow, House	<i>Corvus splendens</i>
25.	Crow, Jungle	<i>Corvus macrorhynchos</i>
26.	Cuckoo, Common Hawk or Brainfever Bird	<i>Cuculus varius</i>
27.	Cuckoo, Sirkeet	<i>Taccocua leschenaultii</i>
28.	Curlew	<i>Numenius arquata</i>
29.	Curlew, Stone	<i>Burhinus oedicnemus</i>
30.	Dove, Little Brown	<i>Streptopelia senegalensis</i>
31.	Dove, Ring	<i>Streptopelia decaocto</i>
32.	Dove, Spotted	<i>Streptopelia chinensis</i>
33.	Drongo, Black or Kind Crow	<i>Dicrurus adsimilis</i>
34.	Drongo, Racket-tailed	<i>Dicrurus paradiseus</i>
35.	Drongo, White-bellied	<i>Dicrurus caerulescens</i>
36.	Duck, Pintail	<i>Anas acuta</i>
37.	Eagle, Crested Hawk	<i>Spizaetus cirrhatus</i>
38.	Eagle, Crested Serpent	<i>Spilornis cheela</i>
39.	Eagle, Short-toed	<i>Circaetus gallicus</i>
40.	Eagle, Tawny	<i>Aquila rapax</i>
41.	Egret, Cattle	<i>Bubulcus ibis</i>
42.	Egret, Little	<i>Egretta garzetta</i>
43.	Flowerpecker, Thick-billed	<i>Dicaeum agile</i>

Sl.No.	English Name	Latin Name
44.	Flowerpecker, Tickell's	<i>Dicaeum erythrorhynchos</i>
45.	Flycatcher, Grey-headed	<i>Culicicapa ceylonensis</i>
46.	Flycatcher, Paradise	<i>Terpsiphone paradisi</i>
47.	Flycatcher, Tickell's Blue	<i>Muscicapa thalassina</i>
48.	Flycatcher, Verditer	<i>Terpsiphone paradisi</i>
49.	Flycatcher, White-spotted Fantail	<i>Rhipidura albicollis</i>
50.	Fowl, Red Jungle	<i>Gallus gallus</i>
51.	Heron, Grey	<i>Ardea cinerea</i>
52.	Heron, Night	<i>Nycticorax nycticorax</i>
53.	Heron, Pond or Paddy Bird	<i>Ardeola grayii</i>
54.	Hoopoe	<i>Upupa epops</i>
55.	Hornbill, Common Grey	<i>Tockus birostris</i>
56.	Hornbill, Malabar Pied	<i>Anthracoceros coronatus</i>
57.	Ibis, Black	<i>Pseudibis papillosa</i>
58.	Ibis, White	<i>Threskiornis aethiopica</i>
59.	Iora	<i>Aegithina tiphia</i>
60.	Kingfisher, Pied	<i>Ceryle rudis</i>
61.	Kingfisher, Small Blue	<i>Alcedo atthis</i>
62.	Kingfisher, White-breasted	<i>Halcyon smyrnensis</i>
63.	Kite, Brahminy	<i>Haliastur indus</i>
64.	Kite, Blackwinged	<i>Elanus caeruleus</i>
65.	Kite, Common Pariah	<i>Milvus migrans</i>
66.	Koel	<i>Eudynamys scolopacea</i>
67.	Lapwing, Redwattled	<i>Vanellus indicus</i>
68.	Lapwing, Yellow-wattled	<i>Vanellus malabaricus</i>
69.	Lark, Black-bellied Finch	<i>Eremopterix grisea</i>
70.	Lark, Crested	<i>Galerida cristata</i>
71.	Lark, Red-winged Bush	<i>Mirafra erythroptera</i>
72.	Lark, Rufous-tailed Finch	<i>Ammomanes phoenicurus</i>
73.	Lorikeet	<i>Loriculus vernalis</i>
74.	Minivet, Scarlet	<i>Pericrocotus flammeus</i>
75.	Minivet, Small	<i>Pericrocotus cinamomeus</i>
76.	Munia, Black-headed	<i>Lonchura malacca</i>
77.	Munia, Green	<i>Estrilda formosa</i>
78.	Munia, Red or Waxbill	<i>Estrilda amandava</i>
79.	Munia, Spotted	<i>Lonchura punctulata</i>
80.	Munia, White-backed	<i>Lonchura striata</i>
81.	Munia, White-throated	<i>Lonchura malabarica</i>
82.	Myna, Bank	<i>Acridotheres ginginianus</i>
83.	Myna, Grey-headed	<i>Sturnus malabaricus</i>
84.	Myna, Indian	<i>Acridotheres tristis</i>
85.	Myna, Jungle	<i>Acridotheres fuscus</i>
86.	Myna, Pied	<i>Sturnus contra</i>
87.	Myna, Brahminy or Black-headed	<i>Sturnus pagodarum</i>
88.	Nightjar, Common Indian	<i>Caprimulgus asiaticus</i>
89.	Nuthatch, Chestnut-bellied	<i>Sitta castanea</i>
90.	Oriole, Black-headed	<i>Oriolus xanthornus</i>
91.	Oriole, Golden	<i>Oriolus oriolus</i>
92.	Owl, Barn or Screech	<i>Tyto alba</i>
93.	Owl, Brown Fish	<i>Bubo zeylonensis</i>

Sl.No.	English Name	Latin Name
94.	Owl, Collared Scopes	<i>Otus bakkamoena</i>
95.	Owl, Indian Great Horned	<i>Bubo bubo</i>
96.	Owlet, Barred Jungle	<i>Glaucidium radiatum</i>
97.	Parakeet, Alexandrine or Large Indian	<i>Psittacula eupatria</i>
98.	Parakeet, Blossom-headed	<i>Psittacula cyanocephala</i>
99.	Parakeet, Roseringed	<i>Psittacula krameri</i>
100.	Partridge, Black	<i>Francolinus francolinus</i>
101.	Partridge, Grey	<i>Francolinus pondicerianus</i>
102.	Peafowl, Common	<i>Pavo cristatus</i>
103.	Pheasant, Crow or Coucal	<i>Centropus siensis</i>
104.	Pie, Tree	<i>Dendrocitta vagabunda</i>
105.	Pigeon, Common Green	<i>Treron phoenicoptera</i>
106.	Pipit, Indian	<i>Anthus novaeseelandiae</i>
107.	Pitta, Indian	<i>Pitta brachyura</i>
108.	Plover, Little Ringed	<i>Charadrius dubius</i>
109.	Quail, Blackbreasted or Rain	<i>Coturnix coromandelica</i>
110.	Quail, Common or Bluelegged Bustard	<i>Turnix suscitator</i>
111.	Quail, Common or Grey	<i>Coturnix coturnix</i>
112.	Quail, Jungle Bush	<i>Perdicula asiatica</i>
113.	Quail, Indian or Yellow-legged Button .	<i>Turnix tanki</i>
114.	Redshank	<i>Tringa totanus</i>
115.	Robin, Indian	<i>Saxicoloides fulicata</i>
116.	Robin, Magpie	<i>Copsychus saularis</i>
117.	Roller or Blue Jay	<i>Coracias benghalensis</i>
118.	Sandgrouse, Common	<i>Pterocles exustus</i>
119.	Sandgrouse, Painted	<i>Pterocles indicus</i>
120.	Sandpiper, Common	<i>Tringa hypoleucos</i>
121.	Sandpiper, Wood or Spotted	<i>Tringa glareola</i>
122.	Shama	<i>Copsychus malabaricus</i>
123.	Shikra	<i>Accipiter badius</i>
124.	Shrike, Ashy Swallow	<i>Artamus fuscus</i>
125.	Shrike, Baby-backed	<i>Lanius vittatus</i>
126.	Shrike, Black-headed Cuckoo	<i>Coracina melanoptera</i>
127.	Shrike, Common Wood	<i>Tephrodornis pondicerianus</i>
128.	Shrike, Large Cuckoo	<i>Coracina novaehollandiae</i>
129.	Shrike, Rufous-backed	<i>Lanius schach</i>
130.	Skylark, Indian Small	<i>Alauda guagula</i>
131.	Sparrow, House	<i>Passer domesticus</i>
132.	Sparrow, Yellow-Throated	<i>Petronia xanthocollis</i>
133.	Spurfowl, Red	<i>Galloperdix spadicea</i>
134.	Stilt, Blackwinged	<i>Himantopus himantopus</i>
135.	Stint, Little	<i>Calidris minutus</i>
136.	Stork, White	<i>Ciconia ciconia</i>
137.	Stork, White-necked	<i>Ciconia episcopus</i>
138.	Stork, Black-necked	<i>Ephippiorhynchus asiaticus</i>
139.	Sunbird, Purple	<i>Nectarinia asiatica</i>
140.	Sunbird, Purple-rumped	<i>Nectarinia zeylonica</i>
141.	Swallow, Redrumped or Striated	<i>Hirundo</i>
142.	Swallow, Common	<i>Hirundo rustica</i>

Sl.No.	English Name	Latin Name
143.	Swallow, Wire-tailed	<i>Hirundo smithii</i>
144.	Swift, Crested Tree	<i>Hemiprocne longipennis</i>
145.	Swift, House	<i>Apus affinis</i>
146.	Swift, Palm	<i>Cypsiurus parvus</i>
147.	Teal, Common	<i>Anas crecca</i>
148.	Tern, Indian Whiskered	<i>Chlidonias hybrida</i>
149.	Tern, River	<i>Sterna aurantia</i>
150.	Tit, Grey	<i>Parus major</i>
151.	Vulture, King or Black	<i>Torgos calvus</i>
152.	Vulture, White Scavenger or pharaoh's chicken	<i>Neophron percnopterus</i>
153.	Vulture, White-backed or Bengal	<i>Gyps bengalensis</i>
154.	Wagtail, Grey	<i>Motacilla caspica</i>
155.	Wagtail, Large Pied	<i>Motacilla maderaspatensis</i>
156.	Wagtail, White	<i>Motacilla alba</i>
157.	Wagtail, Yellow	<i>Motacilla flava</i>
158.	Wagtail, Yellow-headed	<i>Motacilla citreola</i>
159.	Warbler, Ashy Wren	<i>Prinia socialis</i>
160.	Warbler, Indian Wren	<i>Prinia subflava</i>
161.	Warbler, Streaked Fantail	<i>Cisticola juncidis</i>
162.	Waterhen, White-breasted	<i>Amaurornis phoenicurus</i>
163.	Weaver Bird, Baya	<i>Ploceus philippinus</i>
164.	Weaver Bird, Black-breasted	<i>Ploceus benghalensis</i>
165.	Weaver Bird, Streaked	<i>Ploceus manyar</i>
167.	White-eye	<i>Zosterops palpebrosa</i>
168.	Woodpecker, Golden-backed	<i>Dinopium benghalense</i>
169.	Woodpecker, Pigmy	<i>Picoides nanus</i>
170.	Woodpecker, Rufous	<i>Micropternus brachyurus</i>
171.	Woodpecker, Yellow-fronted Pied or Mahratta	<i>Picoides mahrattensis</i>

ANNEXURE - VII

LIST OF IMPORTANT SEED - BEARING PLANTS

LATIN NAME	LOCAL NAME
A. TREES:	
1. <i>Acacia arabica</i>	Babul
2. <i>Acacia catechu</i>	Khair
3. <i>Adina cordifolia</i>	Karam
4. <i>Aegle marmelos</i>	Bel
5. <i>Ailanthus excelsa</i>	Ghorkaranj/ Ghorkaram
6. <i>Alangium Lamarckii</i>	Dhela
7. <i>Albizzia lebbek</i>	Siris
8. <i>Albizzia odoratissima</i>	Jang Siris
9. <i>Albizzia procera</i>	Safed Siris
10. <i>Alstonia scholaris</i>	Chatni
11. <i>Anogeissus latifolia</i>	Dhautha
12. <i>Antidesma ghaesembilla</i>	Bhabiranj
13. <i>Arotocarpus integrifolia</i>	Kathal
14. <i>Artocarpus lakoocha</i>	Barhar
15. <i>Azadirachta indica</i>	Neem
16. <i>Bauhinia retusa</i>	Kathul
17. <i>Bauhinia purpurea</i>	Koenar
18. <i>Bauhinia racemosa</i>	Katmauli
19. <i>Bauhinia variegata</i>	Kachnar
20. <i>Bombax ceiba</i>	Semal
21. <i>Boswellia serrata</i>	Salai
22. <i>Bridelia retusa</i>	Kajhi
23. <i>Buchanania lanzan</i>	Piar
24. <i>Butea frondosa</i>	Palas
25. <i>Careya arborea</i>	Kumbhi
26. <i>Casearia tomentosa</i>	Beri
27. <i>Cassia fistula</i>	Dhanraj/Amaltas
28. <i>Chloroxylon swietenia</i>	Bharhul
29. <i>Cordia Macleodii</i>	Belwanjan
30. <i>Cordia myxa</i>	Bahuar
31. <i>Cochlospermum gossypium</i>	Galgal
32. <i>Dalbergia lanceolaria</i>	Hardi
33. <i>Dalbergia latifolia</i>	Kala Shisham
34. <i>Dalbergia sissoo</i>	Shisham
35. <i>Diospyros embryopteris</i>	Madartendu
36. <i>Diospyros melanoxylon</i>	Tend/Kend/Tiril
37. <i>Dillenia pentagyna</i>	Rai
38. <i>Elaeodendron Mukorossi</i>	Ratangur
39. <i>Ehretia laevis</i>	Bhaire
40. <i>Embllica officinalis</i>	Amla
41. <i>Eugenia heyneana</i>	Katjamun
42. <i>Eugenia jambolana</i>	Jamun
43. <i>Eugenia operculata</i>	Paiman
44. <i>Ficus benghalensis</i>	Bar

Sl.No	Latin Name	Local Name
45.	<i>Ficus cunia</i>	Parho
46.	<i>Ficus histida</i>	Dimar
47.	<i>Ficus religiosa</i>	Pipal
48.	<i>Ficus tomentosa</i>	Barun
49.	<i>Gardenia latifolia</i>	Papra
50.	<i>Gmelina arborea</i>	Gamhar
51.	<i>Grewia asiatica</i>	Patdhaman
52.	<i>Grewia hirsuta</i>	Gursukhi
53.	<i>Holarrhena antidysentrica</i>	Koreya
54.	<i>Holoptelea integrifolia</i>	Chilbil
55.	<i>Hymenodictyon excelsum</i>	Bhurkur
56.	<i>Ixora parvifolia</i>	Lohajangin
57.	<i>Kydia calycina</i>	Pula
58.	<i>Lagerostroemia parviflora</i>	Sidha
59.	<i>Lannea grandis</i>	Genjan
60.	<i>Litsea sebifer</i>	Medh
61.	<i>Madhuca latifolia</i>	Mahua
62.	<i>Mallotus philippinensis</i>	Rohan
63.	<i>Mangifera indica</i>	Mango
64.	<i>Melia azedarach</i>	Bakain
65.	<i>Michelia champaca</i>	Champa
66.	<i>Mitragyna parviflora</i>	Guri/ Gurikaram
67.	<i>Morinda tinctoria</i>	Ach
68.	<i>Morus spp.</i>	Tut
69.	<i>Murraya exotica</i>	Kamini/Otel
70.	<i>Oroxylum indicum</i>	Sonapatta
71.	<i>Ougeinia oojenensis</i>	Sandam
72.	<i>Polyalthia cerasioides</i>	Kudmi
73.	<i>Pongamia glabra</i>	Karanj
74.	<i>Pterocarpus marsupium</i>	Bia/Paisar
75.	<i>Randia uliginosa</i>	Piurar
76.	<i>Rubia cordifolia</i>	Jotsingh
77.	<i>Saccopetalum tomentosum</i>	Kari
78.	<i>Sapindus Mukorossi</i>	Ritha
79.	<i>Schleichera oleosa</i>	Kusum
80.	<i>Schrebera swienioides</i>	Ghato
81.	<i>Semecarpus anacardium</i>	Bhelwa
82.	<i>Shorea robusta</i>	Sal/Sakhua
83.	<i>Soymida febrifuga</i>	Rohena
84.	<i>Spondias mangifera</i>	Amra
85.	<i>Sterculia urens</i>	Keonjhi
86.	<i>Stereospermum suaveolens</i>	Pader
87.	<i>Tamarindus indica</i>	Imli/Jojo
88.	<i>Tectona grandis</i>	Sagwan/Teak
89.	<i>Terminalia arjuna</i>	Arjun
90.	<i>Terminalia belerica</i>	Bahera
91.	<i>Terminalia chebula</i>	Harra
92.	<i>Terminalia tomentosa</i>	Asan

Sl.No. Latin Name

Local Name

- | | |
|--------------------------------|-------------|
| 93. <i>Toona ciliata</i> | Toon |
| 94. <i>Vangueria pubescens</i> | Katai |
| 95. <i>Wendlandia exerta</i> | Tilia/Tiril |
| 96. <i>Zizyphus mauritiana</i> | Ber |
| 97. <i>Zizyphus xylopyra</i> | Katber |

B. SHRUBS AND HERBS

- | | |
|--------------------------------------|---------------------|
| 1. <i>Achyranthus aspara</i> | Chirchiri |
| 2. <i>Andrographis paniculata</i> | Kalmegh |
| 3. <i>Antidesma diandrum</i> | Amti |
| 4. <i>Asparagus racemosa</i> | Satawar |
| 5. <i>Berberis aristata</i> | Kashmoi |
| 6. <i>Calotropis gigantea</i> | Akaon |
| 7. <i>Carisa carandas</i> | Kanwar |
| 8. <i>Carisa spinarum</i> | Jangli Karonda |
| 9. <i>Cassia tora</i> | Chakor |
| 10. <i>Cleistanthus collinus</i> | Kargali |
| 11. <i>Clerodendron infortunatum</i> | Bhant |
| 12. <i>Colebrookia oppositifolia</i> | Binda/Bindhru |
| 13. <i>Croton oblongifolius</i> | Putri |
| 14. <i>Emblica robusta</i> | Baborang |
| 15. <i>Euphorbia hirta</i> | Dudhi |
| 16. <i>Flacourtia Ramontchi</i> | Katai |
| 17. <i>Flemingia chappar</i> | Galphuli |
| 18. <i>Flemingia stricta</i> | Salpani |
| 19. <i>Flueggia obovata</i> | Sika |
| 20. <i>Gardenia turgida</i> | Karhar/Dhanuk |
| 21. <i>Gardenia gummifera</i> | Dekamali |
| 22. <i>Glochidion lanceolarium</i> | Kalchu/Chiku |
| 23. <i>Helicteres isora</i> | Aitha/Atham |
| 24. <i>Hypericum gaitii</i> | Gaiti |
| 25. <i>Indigofera pulchella</i> | Jirhul |
| 26. <i>Lantana camara</i> | Putus |
| 27. <i>Limonia acidissima</i> | Belsain |
| 28. <i>Mimosa pudica</i> | Lajwanti |
| 29. <i>Nyctanthes arobortristis</i> | Samshihar/Harsingar |
| 30. <i>Phoenix acaulis</i> | Khejur |
| 31. <i>Randia dumetorum</i> | Mowar |
| 32. <i>Rauwolfia spp.</i> | Chandra |
| 33. <i>Solanum nigrum</i> | Makoi |
| 34. <i>Solanum xanthocarpum</i> | Rengni |
| 35. <i>Sophora bakeri</i> | Birja/Bara/Jirhul |
| 36. <i>Strobilanthes auriculatus</i> | Gond/Marmaridara |
| 37. <i>Swertia pulchella</i> | Chiretta |
| 38. <i>Symplocas racemosa</i> | Lodh |
| 39. <i>Tephrosia purpurea</i> | Sarpuka |
| 40. <i>Thespesia lampas</i> | Ban/Kapasi |
| 41. <i>Urginea indica</i> | Jangli Piaj |
| 42. <i>Ventilago maderaspatana</i> | Keonti |

Sl.No. Latin Name

Local Name

- | | |
|---------------------------------|----------------|
| 43. <i>Vitex negundo</i> | Sindwar |
| 44. <i>Wrightia tinctoria</i> | Kapar/Adhkapar |
| 45. <i>Woodfordia fruticosa</i> | Dhawai |
| 46. <i>Zizyphus oenoplia</i> | Dhathora |

C. CLIMBERS, PARASITES, SEMI- PARASITES, ORCHIDS

- | | |
|----------------------------------|--------------------|
| 1 <i>Abrus precatorius</i> | Karjani |
| 2 <i>Acacia pennata</i> | Arar |
| 3 <i>Bauhinia vahlii</i> | Maholan |
| 4 <i>Butea parviflora</i> | Cihut |
| 5 <i>Butea superba</i> | Dorang |
| 6 <i>Casytha spp.</i> | |
| 7 <i>Combretum decandrum</i> | Rateng/Phalandur |
| 8 <i>Cryptolepis Buchanani</i> | Dudhia lar |
| 9 <i>Cuscuta reflexa</i> | Alaj-jori/Parasite |
| 10 <i>Habenaria susannae</i> | Orchid |
| 11 <i>Ichnocarpus frutescens</i> | Saon lar |
| 12 <i>Loranthus spp.</i> | Banda |
| 13 <i>Millettia auriculata</i> | Gurnar |
| 14 <i>Momordica dioica</i> | Keksa |
| 15 <i>Mucuna prurita</i> | Alkosi |
| 16 <i>Mukia maderaspatana</i> | Bilari |
| 17 <i>Pogonia spp.</i> | Orchid |
| 18 <i>Porana paniculata</i> | Bhidia lar |
| 19 <i>Pueraria tuberosa</i> | Patal Konhra |
| 20 <i>Smilax macrophylla</i> | Ram datwan |
| 21 <i>Smilax prolifera</i> | Ram datwan |
| 22 <i>Vanda spp.</i> | Orchid |
| 23 <i>Viscum spp.</i> | Banda |
| 24 <i>Vitis latifolia</i> | Khopri |
| 25 <i>Vitis repanda</i> | Harjorwa |

D. GRASSES, BAMBOO, AGAVE

- | | |
|----------------------------------|--------------------|
| 1 <i>Agave spp.</i> | Moraba |
| 2 <i>Apluda varia</i> | Dudhia sauri |
| 3 <i>Arundinella setosa</i> | Jharu/Motaminijhar |
| 4 <i>Bambusa arundinacea</i> | Bara bans |
| 5 <i>Chrysopogon aciculatus</i> | Chor kanta |
| 6 <i>Chrysopogon mountanus</i> | - |
| 7 <i>Cymbopogon martini</i> | Nanha dudhe grass |
| 8 <i>Cynodon dactylon</i> | Doob |
| 9 <i>Dendro calamus strictus</i> | Bans/Bamboo |
| 10 <i>Eulaliopsis binata</i> | Sabai |
| 11 <i>Imperata arundinacea</i> | Cherograss |
| 12 <i>Imperata cylindrica</i> | Ulu |
| 13 <i>Heteropogon contortus</i> | Kher/Sauri grass |
| 14 <i>Panicum montana</i> | Khrj |
| 15 <i>Saccharum munja</i> | Munj |
| 16 <i>Thysanolaena agrostis</i> | Jharu/Broom grass |
| 17 <i>Vetiveria zizanioides</i> | Khus-khus |

ANNEXURE - VIII

LIST OF IMPORTANT MEDICINAL PLANTS REPORTED FROM PALAMAU TIGER RESERVE
AND THEIR NATIVE USES

LATIN NAME	LOCAL NAME	USES
1 <i>Abrus precatorius</i>	Karjani	Seed - Purgative, emetic, aphrodisiac, poultice of seeds used as suppository for abortion Root - Emetic, alexiteric(?) Leaves - Juice from fresh leaves in said to remove spots of leucoderma
2 <i>Acacia arabica</i>	Babul	Fruit - Ground fruit mixed with sugar is given him weakness by tribals Bark - Astringent, demulcent Gum - In dry cough, diarrhoea, dysentery and diabetes mellitus
3 <i>Acacia catechu</i>	Khair	Bark & Kath - Astringent
4 <i>Achyranthes aspera</i>	Chirchiri	Plant - Purgative and diuretic, used in dropsy, Piles, Boils, Skin eruptions, Colic, Snake-bite etc. Root - Astringent, used in Pyrrhoea Seed - Emetic
5 <i>Adina cordifolia</i>	Karam	Bark - Febrifuge, Antiseptic, also used to kill worms in sores
6 <i>Ailanthus excelsa</i>	Ghorkaranj	Bark - Aromatic, Tonic, Febrifuge, Expectorant, Antispasmodic and Astringent; used in Rheumatism also.
7 <i>Aegle marmelos</i>	Bel	Fruit - Pulp of ripe fruit aromatic, cooling and laxative while half ripe fruit Astringent, Digestive and Stomachic Root - Used in intermittent fevers, and as bark fish poison.
8 <i>Alangium Lamarckii</i>	Dhela	Leaves - As poultice in rheumatic pain

		Bark&root	In Jaundice
		Root Bark	Purgative, anthelmintic and useful in fever and skin diseases.
9	<i>Albizzia lebbek</i>	Siris	Plant - In snake-bite and scorpion sting, infusion given in anaemia and for curing itch.
		Bark&Seed	Astringent, tonic and restorative, given in biles and diarrhoea
		Root bark	In Powder form used to strengthen gums in night-blindness.
10	<i>Albizzia procera</i>	Safed Siris	Leaves - Used as insecticide, made into poultice and applied to ulcer
11	<i>Alstonia scholaris</i>	Chatni	Bark - Tonic, alternative, febrifuge, useful in diarrhoea dysentery and snake-bite
		Milky juice	- Applied to ulcer
13	<i>Audrographis</i>	Kalmegh	Plant - Tonic, febrifuge, alternative, anthelmintic paniculata
14	<i>Artocarpus lakoocha</i>	Barhar	Seed - Ground and given to children as purgative
15	<i>Asparagus racemosa</i>	Satawar	Root - Decoction used by tribals in fever, refrigerant, demulcent, aphrodisiac, antiseptic, alterative, galactagogue.
16	<i>Azadirachta indica</i>	Neem	Leaves - Carminative, expectorant, anthelmintic, antidotal, diuretic and insecticidal; externally applied in skin diseases as antiseptic and stimulant.
		Bark	- Bitter tonic, astringent, alterative, anthelmintic,
		Roots& Trunk	Antispasmodic and stimulant
		Gum	- Stimulant and demulcent
		Fruit	- Used in urinary diseases, piles, leprosy, intestinal worms etc.
		Seed oil	- Antiseptic dressing in skin diseases
17	<i>Bauhinia purpurea</i>	Koear	Bark - Astringent
		Root	- Carminativ
		Flowers	- Laxative
18	<i>Bauhinia retusa</i>	Kathal	Gum - Emmenagogue, diuretic
19	<i>Bombax ceiba</i>	Semal	Root - Tonic, stimulant emetic, aphrodisiac
		Leaves	- Boiled and given with sugar in case of weakness
		Gum	- Aphrodisiac, demulcent, haemo-static,

				astrigent, tonic, alterative.
20	<i>Boswellia serrata</i>	Salai	Gum	- Diaphoretic, diuretic, astrigent, emmenagogue, tonic
21	<i>Buchanania lanzan</i>	Piar	Oil	- Tonic, a substitute for almond oil in native medical preparations
			Gum	- Used in diarrhoea
22	<i>Butea frondosa</i>	Palas	Leaf	- Astringent, tonic
			Seed	- Anthelmintic
			Gum	- Astringent
23	<i>Calotropis gigantea</i>	Akaon	Leaves	- Used in dropsy and enlargement of abdominal viscera, smoked or smoke inhaled in asthma & cough, decoction for extracting guinea worms.
			Root bark	- Cholagogue, diaphoretic, emetic, alterative and diuretic.
			Flower	- Tonic, stomachic, digestive and expectorant.
			Latex	- Abortifacient as well as used in leprosy, dropsy, rheumatism, etc.
24	<i>Carissa carandas</i>		Kanwar	Fruit - Appetizer, ground green fruit with salt taken in dysentery
25	<i>Cassia fistula</i>	Amaltas	Leaves- Seeds and Root bark	Laxative, tonic, febrifuge, purgative
			Root	- Astringent, tonic, febrifuge, purgative.
			Flower	- Purgative
			Fruit	- Cathartic, also applied in rheumatism
			Seeds	- Emetic.
26	<i>Chloroxylon swietenia</i>	Bharhul	Leaf	- Used for cure of sores in cattle
27	<i>Clerodendron infortunatum</i>	Bhant	Leaves	- Tonic, antiperiodic, febrifuge, vermifuge, also used in skin diseases and as substitute for chireta
28	<i>Dalbergia latifolia</i>	Kala sissoo	Leaf	- Boiled and infusion taken in weakness
29	<i>Emblica officinalis</i>	Amla	Fruit	- Richest source of vitamin 'C', refrigerant, antiscorbutic, diuretic, laxative, astrigent, stomachic, blood purifier, appetizer.
			Seed	- Infusion used as eye-wash in ophthalmic diseases.

30	<i>Eugenia spp.</i>	Jamun	Bark	-	Astringent, decoction used for gargles, fresh juice used in diarrhoea of children
			Fruit	-	juice (fresh as well as vinegar) used as stomachic, carminative, diuretic.
			Seed	-	Used in diabetes.
30	<i>Euphoria hirta</i>	Dudhi	Plant	-	Vermifuge and expectorant
32	<i>Ficus benghalensis</i>	Bar	Leaves	-	Poultice applied to abscesses
			Bark	-	Tonic, astringent, used also in diarrhoea and diabetes.
			Seed	-	Refrigerant, tonic
			Milky juice.	-	Applied externally for pains in rheumatism and lumbago
33	<i>Ficus religiosa</i>	Pipal	Young Shoots & leaves	-	Purgative
			Bark	-	Astringent, infusion taken internally in scabies
			Fruit	-	Laxative
			Seeds	-	Cooling and alterative.
34	<i>Flacourtia ramontchi</i>	Katai	Fruit	-	In jaundice and enlarged spleen
			Gum	-	Given with other ingredients in cholera.
35	<i>Helicteres isora</i>	Aintha	Root	-	Expectorant, demulcent, astringent, juice in diabetes and stomach affections, topical application for scabies.
			Bark	-	Expectorant, demulcent and astringent, also used in dysentery and diarrhoea.
			Fruit	-	Demulcent and astringent, useful in gripping of bowels and flatulence of children.
36	<i>Holarrhena antidysenterica</i>	Koreya	Bark	-	Used in dysentery, rubbed in ground form over body in dropsy.
			Seed	-	Astringent, febrifuge, used in dysentery, diarrhoea and vermifuge.
37	<i>Holoptelia integrifolia</i>	Chilbil	Bark	-	Juice of boiled bark applied to rheumatic swellings
			Leaves	-	Fish poison
38	<i>Hymenodictyon excelsum</i>	Bhurkur	Bark (inner)	-	Astringent and febrifuge

- 39 *Lannea grandis* Genjan Leaves - Boiled and applied for local swellings and pains
Bark - astringent, used as lotion in eruption, ulcer, etc., decoction used in toothache
- 40 *Litsaea sebifera* Medh Bark - Crushed and used for curing pain; given to cows to strengthen them
- 41 *Madhuca latifolia* Mahua Bark - Used in rheumatic affection as well as itch and its decoction as astringent and tonic.
Flower - Fried flowers eaten in piles; its spirit is astringent, tonic, appetizer and sedative.
- 42 *Melia azedarach* Bakain Root bark-
Fruit, flower
and leaves Deobstruent, resolvent, alexipharmic; juice of leaves anthelmintic, antilithic diuretic and emmenagogue
Seed Oil - Used in antiseptic dressing
- 43 *Michelia champaca* Champa Bark - Febrifuge, stimulant, expectorant, astringent, purgative.
Flowers
and fruits- Stimulant, antispasmodic, tonic, stomachic, carminative and cooling, used in dyspepsia, nausea, fever, renal diseases and applied externally in vertigo with sesamum oil. Oil from flowers cephalagia, ophthalmia and gout. Seed and fruit used for healing cracks in feet.
- 44 *Mimosa pudica* Lajwanti Root - Decoction used in gravelly complaints
Leaves - Used in piles and fistula; paste applied in hydrocoel and scorpion sting.
- 45 *Mucuna prurita* Alkusi Root - purgative febrifuge, used in cholera and dropsy
Seed - Aphrodisiac and nervine tonic.
- 46 *Nyctanthes arbortristis* Samsihar Leaves - Used in fever and rheumatism; warm decoction in sciatica and expressed juice used as laxative, tonic and vermifuge.

- 47 *Oroxylum indicum* Sonapatta Root bark- Astringent, diaphoretic, tonic, used in diarrhoea and rhenmatism
Leaves - Burnt leaves taken with wine as a remedy for cough.
Fruits (Tender)- Carminative and stomachic
Seeds - Purgative
- 48 *Ougeinia oojenensis* Sandan Bark - Febrifuge, decoction given in highly coloured urine
Gum - Used in dysentery and diarrhoea, and also as fish poison
- 49 *Pongamia pinnata* Karanj Root - Juice used in fistulous sores and for cleaning foul ulcers.
Stem bark (fresh) Used internally for bleeding piles
Leaves - Used as poultice in worm infested ulcers.
Seed - Oil used in cutaneous affections, herpes scabies and rhenmatism.
- 50 *Pterocarpus marsupium* Bia, Paisar Bark - Astringent,
Leaves - Externally applied in boils sores and skin diseases
Wood - Extract used in diabetes
Gum - Astringent, used in diarrhoea pyrosis and toothache.
- 51 *Pueraria tuberosa* Patal Kohra Root - Demulcent, refrigerant, emetic, tonic, lactagogues. paste rubbed in rheumatism.
- 52 *Rauwolfia spp.* Sarpagandha Root - Febrifuge, antidote for bites of snakes, insects, etc.
- 53 *Rubia cordifolia* Jotsingh Root - Astringent, alterative, deobstruent and tonic; decoction used in jaundice paralysis, urinary and menstrual troubles and inflamed chest.
Stem - Used in cobra-bites and scorpion sting.
- 54 *Schleichera oleosa* Kusum Bark - Astringent, used with oil in itch
Seed - Power applied to remove maggots of animal ulcers,
Oil - Used for cure of itch, ache and scalp and for promoting hair growth.
- 55 *Semecarpus anacardium* Bhelwa Nut - Vermifuge and applied in uterus for abortion
Oil - Used in rhenmatism and leprous nodules
Gum - Used in venereal and leprous affections and nervous debility.
- 56 *Shorea robusta* Sal, Sakhua Resin - Astringent, detergent, digestive, aphrodisiac and used for fumigation to purify houses

ANNEXURE - IX

SAMPLE VILLAGE PROFILES

For drawing up sample village profiles, 20 villages were selected randomly from a list of 139 villages falling in and around 5 km radius of the Reserve boundary. The profiles drawn up are based on field visits carried out in cooperation with Nature Conservation Society during first fortnight of August 1993. The Land Use, Livestock and Amenities and Population Profile, accompanying each sample village are from the results of the fields visits as well as the Palamau District Census Handbook, 1981 and previous survey conducted by the Reserve in 1989.

1.MURU (Development Block: Barwadih;
Subdivision : Latehar)

Muru is 5 km east of the Range Headquarters of Betla and is situated just on the border of the Dorami Reserve Forest. The village is connected by metalled road to the Block Headquarters of Barwadih which has also a railway junction. There is electricity in the village but not many are interested in connections. Majority of the total geographical area is under cultivation, mainly paddy and bajra. The entire village is dependent on the forests of the Reserve for meeting their biomass needs. There is a middle school, but attendance is poor. Wage labour especially from the Forest Department is the villagers preference although most of the families do have some agricultural land also. The nearest market is Barwadih, so is the nearest bus Stop. Most of the basic needs are met from Barwadih which is only 3 km away. Scope of lift irrigation is immense. More than 55% of the population is scheduled tribes comprising mainly of Oraon, Kherwar and Chero while Bhuiyan, Harijan and Turis from the scheduled caste population. Five families of Turis are engaged here in bamboo works like making of basket, dauri and sup. Being near to the Block, some development work in the field of agriculture,

education, health and water facility goes on throughout the year. Labour employment is mainly generated by the Reserve.

TABLE 3.IX.1

Land Use, Livestock and Amenities Available in village MuruLand Use (in ha.)

Total Geographic Area (TGA)	529.34
Total cultivated land	.156.48
Total irrigated land	2.01
Total unirrigated cultivated land	154.47
Total culturable waste	15.63
Total land not available for cultivation	126.47
Forest land	230.76

Livestock

Cow	1100
Buffalo	100
Bullock	500
Goat	2500
Sheep	No

Amenities

Primary School	No
Middle School	one
Medical Aid	No
Post and Telegraph	No
Drinking Water	Yes
Bus Stop	No
Power Supply	Yes

TABLE 3.IX.2

Population Profile of Village Muru

Category	Male	Female	Children	Total
General				
Total population	450	500	350	1300
Scheduled Caste	98	95	275	468
Scheduled Tribe	350	200	400	950
Literates	50	nil	98	148
Employment				
Total Main Workers				700
Cultivators				700
Agricultural Labourers				800
Other Workers				200
Marginal Workers				125
Non-Workers				200
Employable Non-workers (16-60 years)				

2. RABDI (Development Block: Barwadih;
Subdivision: Latehar)

Rabdi is 7 kms west of the Range Headquarters, Betla, and is situated just on the bank of the river Auranga which forms the western boundary of the Reserve. The village is divided into two tolas by a dohar (nulla) which forms the main agricultural field for paddy. More than 70% of the total geographical area is under cultivation with the nulla bed having paddy crops while the upland bajra, gondli, sawan etc. There is tremendous prospect of lift irrigation because of the Auranga river. This village falls in the submergence area of the proposed Auranga Reservoir Project. This village entirely dependent on the forests of the Reserve for meeting their biomass needs. There is one primary school which lacks basic amenities and the attendance is also very poor. After agriculture, most of the villagers depend on wage labour given by the Forest Department for their livelihood. Health and educational facilities are poor. Main thrust by the block is on creating drinking water facilities and development of agriculture. Scheduled tribes form more than 50% of the population comprising Oraon, Kherwar and Chero while Bhuiyan and Harijan form the scheduled caste population. The nearest market is

Satbarwa and Chhipadohar, both of which are over 5 km away. Education level is very poor. There is overdependence on forests for biomass requirements.

TABLE 3.IX.3

Land Use, Livestock and Amenities Available in village RabdiLand Use (in ha.)

Total Geographical Area (TGA)	312.63
Total cultivated land	130.00
Total irrigated land	Nil
Total unirrigated cultivated land	130.00
Total culturable waste	1.64
Total land not available for cultivation	5.24
Forest land	93.28

Livestock

Cow	200
Buffalo	60
Bullock	50
Goat	250
Sheep	Nil

Amenities

Primary School	one
Middle School	No
Medical Aid	No
Post and telegraph	No
Drinking Water	Yes
Bus Stop	No
Power Supply	No

TABLE 3.IX.4

Population Profile of Village Rabdi

Category	Male	Female	Children	Total
General				
Total population	144	131	199	474
Scheduled Caste	49	37	58	144
Scheduled Tribe	73	72	103	248
Literates	30	13	21	64
Employment				
Total Main Workers				170
Cultivators				200
Agricultural Labourers				200
Other Workers				250
Marginal Workers				150
Non-Workers (NW)				271
Employable Non-workers (16-60 years)				20

3. HARNAMAR (Development Block: Barwadih;
Subdivision: Latehar)

Harnamar is 5 km south-east of the Range Headquarters of Chhipadohar and is situated near the boundary of the Saidupe Comportment III. The village is approachable all through the year mainly because a metalled road has been constructed recently. The village is self-sufficient in food because more than 83% of the total geographical area is under agriculture and the output is high because the villagers have water facility and use high yielding varieties of seeds. Irrigation facilities have been provided by the Block and Irrigation Department which is helping in irrigating about 70% of the agricultural land. There is total dependence on forests of the Reserve for firewood, smallwood and fodder needs. Villagers cooperate Forest Department in development works, extinguishing fire, prevention of illicit felling and poaching. 90% of the population is Scheduled Tribes, Oraon and Kherwar while Bhuiyan and Harijan form rest of the population. There is labour migration from this village to Uttar Pradesh and Punjab. There is a primary school but attendance is poor. Electricity lines are being laid. There are 4 irrigation dams which irrigate even during lean

season. This is helping some villagers to go for vegetable cultivation. The villagers are more hard working than their counterparts elsewhere. Education and health facilities need improvement. Nearest market is Chhipadohar from where they can catch train or bus to various places.

TABLE 3.IX.5

Land Use, Livestock and Amenities Available in village HarnamarLand Use (in ha.)

Total Geographic Area (TGA)	495.44
Total cultivated land	416.03
Total irrigated land	361.54
Total unirrigated cultivated land	26.45
Total culturable waste	9.83
Total land not available for cultivation	79.41
Forest land	32.14

Livestock

Cow	83
Buffalo	91
Bullock	17
Goat	89
Sheep	No

Amenities

Primary School	One
Middle School	No
Medical Aid	No
Post and Telegraph	No
Drinking Water	Wells 3, HP 4
Bus Stop	No
Power Supply	No

TABLE 3.IX.6

Population Profile of Village Harnamar

Category	Male	Female	Children	Total
General				
Total population	105	102	148	355
Scheduled Caste	12	9	10	31
Scheduled Tribe	84	86	126	296
Literates	6	2	14	22
Employment				
Total Main Workers	56	20		76
Cultivators	57			57
Agricultural Labourers	190	93		283
Other Workers	20			20
Marginal Workers	70	39		109
Non-Workers (NW)	9	18	104	131
Employable Non-workers				

4. SAIDUPE (Development Block: Barwadih;
Subdivision: Latehar)

Saidupe is 13 km south west of Range Headquarters of Chipadohar and situated on the edge of the Saidupe Block of Reserve Forests. The village is approachable throughout the year except rainy season. Catholic Mission have been able to create some awareness in the field of education and health, but the block authorities have mainly concentrated on drinking water facility and agriculture. Less than 50% of the total geographical area is under cultivation of crops like Paddy and Bajra. Rest of the land is not fit for cultivation. Sunflower and other crops can be tried. The villagers depend on forests of the Reserve for meeting their biomass needs. There is a primary school with satisfactory attendance (Boys 70, Girls 55). Drinking water facility is adequate but health care unit is lacking. More than 90% of the population is Scheduled Tribes, main tribes being Chero, Kherwar, and Oraon. Rest of the population is of Harijan, Bhuiyan and Bania. Labour oriented works are given mainly by the Forest Department after individuals are free from their agricultural engagements. The nearest market

is Barwadih and Lat. People are dependent on forests for their firewood, smalltimber and fodder needs. There is enough scope for minor and lift irrigation.

TABLE 3.IX.7

Land Use, Livestock and Amenities Available in village Saidu
Land Use (in ha.)

Total Geographic Area (TGA)	864.13
Total cultivated land	189.65
Total irrigated land	16.59
Total unirrigated cultivated land	173.06
Total culturable waste	58.85
Total land not available for cultivation	162.20
Forest land	453.43
<u>Livestock</u>	
Cow	238
Buffalo	200
Bullock	51
Goat	347
Sheep	No
<u>Amenities</u>	
Primary School	one
Middle School	No
Medical Aid	No
Post and telegraph	No
Drinking Water	Yes
Bus Stop	No
Power Supply	No

TABLE 3.IX.8

Population Profile of Village Saidupe

Category	Male	Female	Children	Total
General				
Total population	482	464	421	1367
Scheduled Caste	33	20	40	93
Scheduled Tribe	447	442	372	1261
Literates	15	10	26	51
Employment				
Total Main Workers	260	210		470
Cultivators	110			110
Agricultural Labourers	24	20		44
Other Workers	20			
Marginal Workers	180	110		290
Non-Workers (NW)	421			535 (114 old)
Employable Non-workers				

5. LABHAR (Development Block: Barwadih;
Subdivision: Latehar)

Labhar is 13 km north of the Range Headquarters of Garu and is situated only 2 km east of the metalled Daltonganj - Mahuadanr road. The villagers depend solely on forests of the Reserve for meeting their biomass needs. Very small lands available for cultivation of paddy. Majority of the land is not fit for cultivating

traditional crops. Sunflower and other oilseed crops can be introduced here. More than 50% of the villagers are Scheduled Tribes, Oraon, Kherwar and Chero. Rest of the population consists of Scheduled Castes and Baniyas. There is one primary school but the attendance is very poor. Although not far away from the pucca road, the village lacks facilities of education, health, and drinking water. Villagers get employment mainly in works carried out by the Forest Department including the Reserve. The village is approachable throughout the year. The nearest market is Garu and Chhipadohar. Drinking water problem is acute here because the water table is very low.

TABLE 3.IX.9

Land Use, Livestock and Amenities Available in village LabharLand Use (in ha.)

Total Geographic Area (TGA)	412.18
Total cultivated land	31.46
Total irrigated land	Nil
Total unirrigated cultivated land	31.46
Total culturable waste	2.19
Total land not available for cultivation	378.53
Forest land	Nil

Livestock

Cow	47
Buffalo	15
Bullock	37
Goat	88
Sheep	18

Amenities

Primary School	one
Middle School	Nil
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	3 well, 3 HP
Bus Stop	No
Power Supply	No

TABLE 3.IX.10

Population Profile of Village Labhar

Category	Male	Female	Children	Total
General				
Total population	78	75		153
Scheduled Caste	14	12		26
Scheduled Tribe	44	42		86
Literates	29			29
Employment				
Total Main Workers	24	20		44
Cultivators	16	14		30
Agricultural Labourers	27	24		51
Other Workers	25	19		44
Marginal Workers	10	9		19
Non-Workers	17	23		40
Employable Non-workers	2	1		3

6. HARHE (Development Block: Barwadih;
Subdivision: Latehar)

Harhe is 25 km east of Range Headquarters of Garu and adjoins the boundary of Ramandag Reserve Forest. The villagers are depended on the forests of the Reserve for meeting their biomass needs.

Less than 50% of the total geographical area is under cultivation, crops being paddy, bajra, sawan, gondli etc. Rest of the area is not fit for cultivating the traditional crops. Recently sunflower cultivation has been introduced here by the Ramakrishna Mission. Education and health facilities are inadequate. Development activities through the block is almost negligible. Fodder development work has been taken up in the adjoining Reserve Forest by the Reserve authorities to meet the requirements of village cattle. With many small nalas criss-crossing the village, the scope of minor and lift irrigation is tremendous. More than 70% of the population is Scheduled Tribes comprising mainly of Oraon and Kherwar. Bhuiyan and Harijan form about 5% of the population while rest are Banias. Wage labour employment during non-agricultural season is the first preference and Forest Department employs majority of them. Situated quite far away from the Block Headquarters the development works by other departments are negligible. Approach to village is difficult, especially during rainy season. There is no school or health centre. Nearest market is Garu or Lat, 25 and 10km away respectively. There is over dependence on forests for their daily biomass requirements.

TABLE 3.IX.11

Land Use, Livestock and Amenities Available in village HarheLand Use (in ha.)

Total Geographic Area (TGA)	319.71
Total cultivated land	58.68
Total irrigated land	5.26
Total unirrigated cultivated land	53.42
Total culturable waste	12.14
Total land not available for cultivation	32.72
Forest land	216.17

Livestock

Cow	174
Buffalo	33
Bullock	142
Goat	184
Sheep	28

Amenities

Primary School	Nil
Middle School	Nil
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	9 well, HP 10
Bus Stop	Nil
Power Supply	Nil

TABLE 3.IX.12

Population Profile of Village Harhe

Category	Male	Female	Children	Total
General				
Total population				
Scheduled Caste	19	17		36
Scheduled Tribe	201	196		397
Literates				
Employment				
Total Main Workers	27	24		51
Cultivators	20	18		38
Agricultural Labourers	106	37		143
Other Workers	80	78		158
Marginal Workers	18	17		35
Non-Workers (NW)	10	12		22
Employable Non-workers	2	2		4

7. MAROMAR (Development Block: Garu;
Subdivision: Latehar)

Maromar is 11 km south east of Range Headquarters of Garu and lies almost 1/4th km west off Daltonganj- Mahuadanr metalled road. The village is entirely dependent on the forests of the Reserve for meeting their biomass needs. Agriculture is confined to nulla beds only. Greater part of total geographical area is not fit for traditional crops. Recently sunflower cultivation has been introduced by Ramakrishna Mission. Few households grow vegetables along Kohbarwa nulla. One primary school is there but is in a poor state. Development activities have been taken up by various departments but the main thrust has been on drinking water and agriculture. More than 90% of the population belong to Scheduled Tribes, mainly Oraon, Kherwar, Brijia and Parahia. Fair weather approach road to the village has facilitated house building and repair works. Villagers are being encouraged through the Block to construct their own Kuchcha house adjoining their ancestral one as per a set plan and at an estimated cost of Rs 14,000.00 each. Wage labour employment in various departmental works including that of the Forest Department is

the main off season occupation. Every year after agriculture season is over, many able bodied males and females migrate to Uttar Pradesh and work there as labourers in brick kilns, farms etc.

TABLE 3.IX.13

Land Use, Livestock and Amenities Available in village Maromar
Land Use (in ha.)

Total Geographic Area (TGA)	1246.32
Total cultivated land	66.59
Total irrigated land	Nil
Total unirrigated cultivated land	66.59
Total culturable waste	42.25
Total land not available for cultivation	14.41
Forest land	1123.07
<u>Livestock</u>	
Cow	63
Buffalo	71
Bullock	62
Goat	80
Sheep	No
<u>Amenities</u>	
Primary School	1 (one)
Middle School	No
Medical Aid	No
Post and Telegraph	No
Drinking Water	5 Well, HP. 8
Bus Stop	No
Power Supply	No

TABLE 3.IX.14

Population Profile of Village Maromar

Category	Male	Female	Children	Total
General (B.C)	2	3	2	7
Total population	76	68	86	230
Scheduled Caste	4	5	4	13
Scheduled Tribe	70	60	80	210
Literates				
Employment				
Total Main Workers	29	24		53
Cultivators	35			35
Agricultural Labourers	20			20
Other Workers	62	28		90
Marginal Workers	22	18		40
Non-Workers (NW)	46	40		86
Employable Non-workers	4	3		7

8. MAYAPUR (Development Block: Garu;
Subdivision: Latehar)

Mayapur is situated 3 km west of the Range Headquarters of Baresand and only 1 km away from Baresand Block of forests. Much of the land in this village is lying waste and agricultural crops like paddy and bajra are raised only along nulla beds. The villagers meet their firewood, smallwood and fodder requirement from the nearby forests of the Reserve. The literacy percentage of nearly 38 is a striking feature of this village when compared to other villages of this Block. Concentrated missionary development activities along with fairly well-run primary and middle schools has led to achieving this satisfactory rate of literacy.

The labour force required by the Forest Department in and around Baresand is substantially met from this village. The womenfolks are hard working and their general upkeep of house along with health, sanitation, education and other activities is satisfactory. The village has more than 85% of Scheduled Tribes population which includes Oraon, Kherwar and Brijia. Scheduled Castes form only 0.13% and Banias form about 14% of the population. The weekly market of this village is a

great attraction for local people. Development works through Garu Block have also been taken up lately here and the main thrust has been on drinking water, agriculture and poultry. The nearest river is Burha which flows about 4 km east of the village. New crops like sunflower and other oil seeds etc. have recently been introduced here. Quite a few educated youths are unemployed.

TABLE 3.IX.15

Land Use, Livestock and Amenities Available in village Danrkocha

Land Use (in ha.)

Total Geographic Area (TGA)	290.03
Total cultivated land	148.62
Total irrigated land	51.80
Total unirrigated cultivated land	96.82
Total culturable waste	24.97
Total land not available for cultivation	20.56
Forest land	95.88

Livestock

Cow	105
Buffalo	30
Bullock	160
Goat	87
Sheep	19

Amenities

Primary School	1 (one)
Middle School	1 (one)
Medical Aid	No
Post and Telegraph	No
Drinking Water	3 Wells, 7 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.16

Population Profile of Village Danrkocha

Category	Male	Female	Children	Total
General				
Total population	96	89		185
Scheduled Caste				
Scheduled Tribe	96	81		185
Literates	27	20		47
Employment				
Total Main Workers	17	20		37
Cultivators	9	9		18
Agricultural Labourers	15	13		28
Other Workers	25	21		46
Marginal Workers	12	11		23
Non-Workers (NW)	11	17		28
Employable Non-workers	2	1		3

9. DANRKOCHA (Development Block: Garu;
Subdivision: Latehar)

Danrkocha is about 6 km south of the Range Headquarters of Baresand and is only 1 km away from Baresand Compartment 12 and 13. The village is entirely dependent on the forests of the Reserve for their biomass needs. Almost 60% of the total geographical area is not fit for raising traditional crops. Crops like Paddy and Bajra are raised in 40% of the total geographical area, but the productivity is poor. Educational facilities are nil, so is the case with health. Development activities from the block are still to make a start here although some efforts have been made to provide drinking water facilities. The approach to the village has not been made permanent yet. Majority of villagers depend on wage labour for their livelihood. Dependence on forest is maximum. One Christian Mission is active in the village and is engaged in health and education work. Entire population is Scheduled Tribes, mainly Oraon, Brijia and Parahia.

TABLE 3.IX.17

Land Use, Livestock and Amenities Available in village MayapurLand Use (in ha.)

Total Geographic Area (TGA)	164.14
Total cultivated land	35.76
Total irrigated land	Nil
Total unirrigated cultivated land	35.76
Total culturable waste	Nil
Total land not available for cultivation	45.34
Forest land	83.04

Livestock

Cow	30
Buffalo	8
Bullock	56
Goat	57
Sheep	9

Amenities

Primary School	No
Middle School	No
Medical Aid	No
Post and Telegraph	No
Drinking Water	1 Well, 1 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.18

Population Profile of Village Mayapur

Category	Male	Female	Children	Total
General (B.C)	53	54		107
Total population	375	381		756
Scheduled Caste	1			1
Scheduled Tribe	327	321		648
Literates	180	107		287
Employment				
Total Main Workers	80	70		150
Cultivators	24	23		47
Agricultural Labourers	57	50		107
Other Workers	105	83		188
Marginal Workers	54	49		103
Non-Workers (NW)	74	61		135
Employable Non-workers	18	12		30

10. SERENDAG (Development Block: Barwadih;
Subdivision: Latehar)

Serendag is situated 30 km north of the Range Headquarters of Baresand, and only 1 km away from the Reserve boundary. The village is entirely dependent on forests of the Reserve for their biomass needs. Agriculture is not the major source of income as only 25% of total geographical area is being used for raising Paddy and Bajra. Majority of the land available is not fit for cultivating traditional crops. The North Koel flows about 1 km south of the village and during rainy season, the village is almost cut-off from the Range Headquarters. Majority of the villagers depend on wage labour for their livelihood. Primary health care, education and approach road are lacking. 95% of the total population is Scheduled Tribes, Oraon, Kherwar, Brijia and Parahia. Scheduled Caste and others forming about 5% of the population is a migrant labour force. The village has traditionally depended more on Forest Department for employment than other departments. Lift irrigation has tremendous potential here. Lat is the nearest market.

TABLE 3.IX.19

Land Use, Livestock and Amenities Available in village SerenLand Use (in ha.)

Total Geographic Area (TGA)	480.23
Total cultivated land	73.75
Total irrigated land	4.04
Total unirrigated cultivated land	69.71
Total culturable waste	8.09
Total land not available for cultivation	12.15
Forest land	386.24

Livestock

Cow	106
Buffalo	73
Bullock	96
Goat	87
Sheep	40

Amenities

Primary School	1
Middle School	No
Medical Aid	No
Post and Telegraph	No
Drinking Water	5 Well, 4 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.20

Population Profile of Village Serendag

Category	Male	Female	Children	Total
General				
Total population	187	197		384
Scheduled Caste	5	4		9
Scheduled Tribe	187	177		364
Literates				
Employment				
Total Main Workers	18	12	30	7.8
Cultivators	17	15	32	32.8
Agricultural Labourers	25	23	48	12.5
Other Workers	85	80	165	42.96
Marginal Workers	26	5	31	7.8
Non-Workers (NW)	26	27	53	13.8
Employable Non-workers	14	13	27	7.03

11. BANSDIH KHURD (Development Block: Chainpur;
Subdivision: Daltonganj)

Bansdih Khurd is 21 km away from Block Headquarters of Chainpur and 12 km from Range Headquarters of Betla. It is approachable by a 4 km long murram road from Daltonganj-Barwadih - Mandal road. 25% of the total population is constituted of Scheduled Tribes and Scheduled Castes. The cattle population is too high.

About 15% of the total geographical area has been put under cultivation of paddy and maize, but the productivity is very poor. For meeting their requirements of firewood, smallwood and grazing ground, the villagers depend on the forests. Majority of the population is engaged in illicit felling and trade of firewood and timber. The villagers have shown their desire for two check dams, milch cattle, poultry birds and fruit plants.

TABLE 3.IX.21

Land Use, Livestock and Amenities Available in village Bansdih KhurLand Use (in ha.)

Total Geographic Area (TGA)	637.53
Total cultivated land	102.08
Total irrigated land	7.77
Total unirrigated cultivated land	94.31
Total culturable waste	20.56
Total land not available for cultivation	1.82
Forest land	513.07

Livestock

Cow	253
Buffalo	12
Bullock	423
Goat	61
Sheep	Nil

Amenities

Primary School	1
Middle School	Nil
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	4 Well, 1 Tk, 1 Nulla
Bus Stop	Nil
Power Supply	Nil

TABLE 3.IX.22

Population Profile of Village Bansdih Khurd

Category	Male	Female	Children	Total
General				
Total population	192	485		977
Scheduled Caste	42	47		89
Scheduled Tribe	234	217		451
Literates	93	19		112
Employment				
Total Main Workers	291	268		559
Cultivators	142	160		302
Agricultural Labourers	130	108		238
Other Workers	19			19
Marginal Workers				
Non-Workers (NW)	101	217		318
Employable Non-workers				

12. AMDIHA (Development Block: Barwadih;
Subdivision: Latehar)

Amdiha is located at about 5 km from Block Headquarters of Barwadih and about 10 km from Range Headquarters of Betla. It is a fairly large village with about 50% population consisting of Scheduled Tribes and Scheduled Castes. Over 60% of the total geographical area has been put under cultivation of paddy and maize, but the productivity is very poor. The villagers do not have their own biomass resources and for meeting their own biomass needs they entirely depend on the nearby forests. Many persons are engaged in illicit felling and trade of firewood and timber.

The villagers want two check dams to be constructed for irrigation purpose. There is general inclination for superior milch cattle and fruit plants.

TABLE 3.IX.23

Land Use, Livestock and Amenities Available in village AmdihaLand Use (in ha.)

Total Geographic Area (TGA)	391.49
Total cultivated land	205.74
Total irrigated land	Nil
Total unirrigated cultivated land	205.74
Total culturable waste	22.76
Total land not available for cultivation	41.38
Forest land	121.61

Livestock

Cow	130
Buffalo	3
Bullock	40
Goat	40
Sheep	Nil

Amenities

Primary School	1 (one)
Middle School	1 (one)
Medical Aid	No
Post and Telegraph	No
Drinking Water	9 Well, 6
Bus Stop	No
Power Supply	No

TABLE 3.IX.24

Population Profile of Village Amdiha

Category	Male	Female	Children	Total
General Households				200
Total population	538	473		1011
Scheduled Caste	530	461		9910
Scheduled Tribe				
Literates	75	10		85
Employment				
Total Main Workers	250	118		368
Cultivators	188	55		243
Agricultural Labourers	158	111		269
Other Workers	37			37
Marginal Workers	16	8		24
Non-Workers (NW)	170	268		438
Employable Non-workers	390	304		694

13. MANGRA (Development Block: Barwadih; Sub-division: Latehar)

Mangra village is located 6 km from Barwadih, and about 10 km from Range Headquarters of Betla. There is a big pond and two schemes of BHALCO lift irrigation which are lying idle. 80% of the population is engaged in illicit felling and trade of fire wood and timber .

About 50% of the geographical area has been put under the cultivation of paddy and maize. The productivity is very poor. The village lacks its own biomass resources and for it they depend entirely on the forests.

The villagers want two idle lift irrigation schemes to be operational. They have shown their inclination for milch cattle, poultry birds and fruit plants.

TABLE 3.IX.25

land Use, Livestock and Amenities Available in village MangraLand Use (in ha.)

Total Geographic Area (TGA)	592.45
Total cultivated land	311.51
Total irrigated land	Nil
Total unirrigated cultivated land	311.51
Total culturable waste	16.02
Total land not available for cultivation	163.69
Forest land	101.23

Livestock

Cow	150
Buffalo	70
Bullock	250
Goat	300
Sheep	Nil

Amenities

Primary School	1
Middle School	No
Medical Aid	No
Post and Telegraph	No
Drinking Water	3 HP., Well NU.
Bus Stop	No
Power Supply	No

TABLE 3.IX.26

Population Profile of Village Mangra

Category	Male	Female	Children	Total
General				
Total population	641	591		1232
Scheduled Caste	251	242		493
Scheduled Tribe	286			286
Literates	140	29		169
Employment				
Total Main Workers	250	118		368
Cultivators	179	32		211
Agricultural Labourers	138	79		217
Other Workers	51	1		52
Marginal Workers	1			1
Non-Workers (NW)	271	478		749
Employable Non-workers				

14. LADGAIN (Development Block: Barwadih; Sub-division: Latehar)

Ladgain is situated 3 km from Daltonganj - Barwadih road, 6 km from Block Headquarters and 10 km from Range Headquarters. There is murrum approach road. The villagers depend for 3 months on agriculture and for rest of the year work as labourer or engage in illicit firewood trade. There is one pond and two places for constructing checkdams for irrigation purpose. There is demand for goat, pig and poultry birds. About 40 ha of land is available for horticulture.

TABLE 3.IX.27

Land Use, Livestock and Amenities Available in village LadgainLand Use (in ha.)

Total Geographic Area (TGA)	512.77
Total cultivated land	255.76
Total irrigated land	27.52
Total unirrigated cultivated land	198.24
Total culturable waste	3.35
Total land not available for cultivation	52.39
Forest land	331.27

Livestock

Cow	48
Buffalo	Nil
Bullock	60
Goat	28
Sheep	Nil

Amenities

Primary School	1
Middle School	No
Medical Aid	No
Post and Telegraph	No
Drinking Water	1 Well, 1 HP.
Bus Stop	NO
Power Supply	NO

TABLE 3.IX.28

Population Profile of Village Ladgain

Category	Male	Female	Children	Total
General				
Total population	204	205		409
Scheduled Caste	114	112		226
Scheduled Tribe	58	41		99
Literates	41	13		54
Employment				
Total Main Workers	121	21		142
Cultivators	36	6		42
Agricultural Labourers	79	15		94
Other Workers	9			9
Marginal Workers				
Non-Workers (NW)	83	184		267
Employable Non-workers				

15. POKHRIKALA (Development Block: Barwadih; Sub-division: Latehar)

Pokhrikala is situated 7 km from the Range Headquarters of Betla and 17 km from Block Headquarters. There is murram road that leads to the village. The village is quite big with large human and cattle population. There is a sizeable muslim population. The Schedule Castes and Scheduled Tribes constitute 10% of the total population. Literacy is 25%.

Over 60% of the total geographical area has been put under cultivation of paddy, maize and linseed. Crop damage by elephants is significant in the village. The village lacks in biomass resources and for it depends on the forests of the Reserve. For most part of the year, lower class depends on wage labour. Many indulge in illicit felling and trade of teak and bamboo.

The villagers want one checkdam besides milch cattle, poultry birds etc.

TABLE 3.IX.29

Land Use, Livestock and Amenities Available in village
Pokharikala

Land Use (in ha.)

Total Geographic Area (TGA)	472.31
Total cultivated land	412.04
Total irrigated land	101.17
Total unirrigated cultivated land	310.87
Total culturable waste	59.58
Total land not available for cultivation	0.69
Forest land	Nil

Livestock

Cow	214
Buffalo	18
Bullock	210
Goat	58
Sheep	Nil

Amenities

Primary School	No
Middle School	1
Medical Aid	No
Post and Telegraph	No
Drinking Water	7 Well, 25 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.30

Population Profile of Village Pokharikala

Category	Male	Female	Children	Total
General				
Total population	1475	1531		3006
Scheduled Caste	135	133		268
Scheduled Tribe	8	10		18
Literates	529	109		638
Employment				
Total Main Workers	577	51		628
Cultivators	227	2		229
Agricultural Labourers	97	30		127
Other Workers	224	19		243
Marginal Workers	126	8		134
Non-Workers (NW)	770	1472		2342
Employable Non-workers				

16. RABDA (Development Block: Barwadih; Sub-division: Latehar)

Rabda is situated 10 km from Block Headquarters and 8 km from Range Headquarters of Betla . One 2 km long murram road to the right from Daltonganj - Ranchi road leads to the village. It is a big village with large human and cattle population. 20% of the human population consists of Scheduled Castes and Scheduled Tribes and they are the poorest.

About 20% of the total geographical area has been put under paddy and maize cultivation. The productivity of land is very poor with no irrigation facilities. The villagers get few opportunities of working as wage labour, mostly from the Reserve. The villagers lack in their own biomass resources and for meeting their needs they depend on the forests of the Reserve. Many villagers indulge in illicit felling and trade of teak timber and bamboo.

The villagers expressed their desire to have milch cattle, pigs and fruit plants. They promised to stop illicit felling of trees provided they get enough employment.

TABLE 3.IX.31

Land Use, Livestock and Amenities Available in village RabdaLand Use (in ha.)

Total Geographic Area (TGA)	532.64
Total cultivated land	101.74
Total irrigated land	12.73
Total unirrigated cultivated land	89.01
Total culturable waste	Nil
Total land not available for cultivation	293.44
Forest land	137.46

Livestock

Cow	340
Buffalo	42
Bullock	210
Goat	58
Sheep	Nil

Amenities

Primary School	No
Middle School	1
Medical Aid	No
Post and Telegraph	No
Drinking Water	3 Well, 2 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.32

Population Profile of Village Rabda

Category	Male	Female	Children	Total
General				
Total population	159	448		607
Scheduled Caste	84	94		178
Scheduled Tribe	366	91		457
Literates	91	4		95
Employment				
Total Main Workers	260	15		275
Cultivators	208			208
Agricultural Labourers	48	15		63
Other Workers	4			4
Marginal Workers	7			7
Non-Workers (NW)	199	426		625
Employable Non-workers				

17. MANASUTI (Development Block: Daltonganj; Sub-division : Daltonganj)

The village is situated about 5 km from Daltonganj - Ranchi road. About 50% of the total population consists of Scheduled Castes and Scheduled Tribes. Literacy here is 20%, mostly amongst Mahatos and upper castes.

About 20% of the total geographical area is cultivated, crops being maize and paddy. The cattle population is very high. The villagers lack their own biomass resources and for meeting their requirements of the same they entirely depend on the forests. Many able bodied men and women migrate to Punjab and Eastern Uttar Pradesh for earning wages after kharif season.

The villagers are interested in poultry, dairy and fruit plants.

TABLE 3.IX.33

Land Use, Livestock and Amenities Available in village ManasaLand Use (in ha.)

Total Geographic Area (TGA)	398.34
Total cultivated land	90.41
Total irrigated land	3.85
Total unirrigated cultivated land	86.56
Total culturable waste	19.85
Total land not available for cultivation	57.34
Forest land	230.74

Livestock

Cow	180
Buffalo	25
Bullock	140
Goat	84
Sheep	Nil

Amenities

Primary School	1
Middle School	Nil
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	8 Well, 3 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.34

Population Profile of Village Manasuti

Category	Male	Female	Children	Total
General				
Total population	252	215		467
Scheduled Caste	95	85		180
Scheduled Tribe	97	95		192
Literates	74	10		84
Employment				
Total Main Workers	158	38		196
Cultivators	36	8		44
Agricultural Labourers	58	22		80
Other Workers	63			63
Marginal Workers				
Non-Workers (NW)	74	185		259
Employable Non-workers				

18. LEDWAKHANR (Development Block: Daltongaj; Sub-division: Daltongaj)

Ledwakhnr is a tribal village, situated 7 km away from Daltonganj - Ranchi road, on the bank of the Auranga river. Entire population is of Brijia Scheduled Tribe. Cattle population is not much and about 50% of total geographical area has been put under cultivation of paddy and maize.

There is no biomass resources of their own and for meeting their requirements of firewood and smallwood, they entirely depend on forests of the Reserve. Many of them indulge in illicit felling and trade of timber.

The villagers showed their inclination for milch cattle, goats and fruit plants, and asked for one primary school in the village.

TABLE 3.IX.35

Land Use, Livestock and Amenities Available in village LedwakhantLand Use (in ha.)

Total Geographic Area (TGA)	48.93
Total cultivated land	22.52
Total irrigated land	0.28
Total unirrigated cultivated land	22.24
Total culturable waste	Nil
Total land not available for cultivation	1.92
Forest land	24.49

Livestock

Cow	8
Buffalo	Nil
Bullock	2
Goat	Nil
Sheep	Nil
Amenities	
Primary School	1
Middle School	No
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	3 Well, 1 HP.
Bus Stop	NO
Power Supply	No

TABLE 3.IX.36

Population Profile of Village Ledwakhnr

Category	Male	Female	Children	Total
General				
Total population	26	27		53
Scheduled Caste				
Scheduled Tribe	27	2		29
Literates	2	1		3
Employment				
Total Main Workers	13	2		15
Cultivators	4	1		5
Agricultural Labourers	9	1		10
Other Workers				
Marginal Workers				
Non-Workers (NW)	13	24		37
Employable Non-workers				

19. PHULWARIA (Development Block: Manika; Sub-division: Latehar)

Phulwaria is situated at the foot of the historic Palamau Fort across the Auranga and is 7 km from Range Headquarters, Betla. It is 10 km away from Satbarwa, a place on Daltonganj - Ranchi road and can be approached by a murram road which is in a very bad state. Entire population is composed of two Scheduled Tribes, Chero and Oraon.

Previously a tola of Rabda village, it has recently been declared as a separate Revenue village. People practice primitive agriculture, but the productivity is very poor. Main crops are paddy, jowar and maize. Cattle population is high here. The villagers are totally dependent on the forests of the Reserve for meeting their biomass needs. They get employment mainly from the Reserve, but majority of them are engaged in illicit felling and trading in teak timber.

The village suffers crop damages caused by elephants every year. The villagers asked for employment and resources like poultry birds, goats and fruit plants. They promised to abandon illicit timber felling and trading if they are assured of employment.

TABLE 3.IX.37

Land Use, Livestock and Amenities Available in village PhulwariaLand Use (in ha.)

Total Geographic Area (TGA)	Till recently,
Total cultivated land	this village
Total irrigated land	was a tola of
Total unirrigated cultivated land	village Rabda.
Total culturable waste	So, the details
Total land not available for cultivation	of land use is
Forest land	not available.

Livestock

Cow	100
Buffalo	4
Bullock	58
Goat	50
Sheep	Nil

Amenities

Primary School	1
Middle School	No
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	5 Well, 3 HP.
Bus Stop	Nil
Power Supply	No

TABLE 3.IX.38

Population Profile of Village Phulwaria

Category	Male	Female	Children	Total
General				
Total population	200	193	307	700
Scheduled Caste	30	33	95	158
Scheduled Tribe	170	160	212	542
Literates	17	3		20
Employment				
Total Main Workers				
Cultivators				
Agricultural Labourers				
Other Workers				
Marginal Workers				
Non-Workers (NW)				
Employable Non-workers				

20. AUSANE

Ausane is quite near to the Reserve boundary across the North Koel and is 20 km away from the Block Headquarters, Chainpur. 25% of the total population is constituted by the Scheduled Castes and Tribes. Literacy is 25%. Cattle population is very high.

There is a primary school in the village. The nearest health centre is about 10 km away at Chanho. There are 6 tubewell and 10 wells. Electric transmission line has reached the village but there is no power. There are altogether 10 diesel pumps in the village. Paddy, maize and jowar are the main crops.

The villagers do not have their own biomass resources and for that they depend on nearby forests. Many villagers eke out their livelihood by cutting and selling firewood in Daltonganj.

The villagers expressed their desire to have one check dam across Parwatnala for irrigation purpose. They asked for fruit plants and milch cattle.

TABLE 3.IX.39

Land Use, Livestock and Amenities Available in village AusaneLand Use (in ha.)

Total Geographic Area (TGA)	849.88
Total cultivated land	636.75
Total irrigated land	162.57
Total unirrigated cultivated land	474.18
Total culturable waste	122.66
Total land not available for cultivation	43.38
Forest land	147.09

Livestock

Cow	432
Buffalo	68
Bullock	280
Goat	400
Sheep	Nil

Amenities

Primary School	1
Middle School	No
Medical Aid	Nil
Post and Telegraph	Nil
Drinking Water	10 Well, 16 HP.
Bus Stop	No
Power Supply	No

TABLE 3.IX.40

Population Profile of village Ausane

Category	Male	Female	Children	Total
General				
Total population	1163	1135		2298
Scheduled Caste	208	209		417
Scheduled Tribe	314	324		638
Literates	331	15		346
Employment				
Total Main Workers	585	365		940
Cultivators	365	455		820
Agricultural Labourers	202	130		332
Other Workers	40			40
Marginal Workers				
Non-Workers	553	550		1103
Employable Non-workers				

IV. THE PROJECT

A. RATIONALE AND OBJECTIVES

The rationale for the project is the protection of the Palamau Tiger Reserve of outstanding biodiversity values, representing one of the most valuable ecosystems in India.

The area has relatively low to high pressures, compared with other protected areas in India. This protected area is such that a reasonable amount of effort and investment, in a short time span of three to five years, could dissolve most of the current pressures and establish a management strategy which is sustainable both for the protected area and for the communities living around them.

A successful ecodevelopment initiative in this area would make it much easier to plan and implement other projects. The planning, implementation, monitoring and evaluation processes in this project would serve as paradigms, and as a learning process, for the projects in the future.

The objectives of the project are to establish a system of management that guarantees protected area conservation in a sustainable manner with the cooperation and participation of the local community and in a manner that does not have adverse social and economic impacts on their lives.

IDENTIFICATION OF THE PROJECT AREA

Taking a five kilometer radius around the protected area, for it is estimated that by and large daily pressures on the protected area rarely come from outside this radius, there are 185 villages in a five kilometer radius around the Reserve.

Whereas it is important to finally cover all of these which are having, or are likely to have, an impact on the Reserve, paucity of funds and the sheer scale of the activities involved make it impossible to take up all of them together. As such, a set of criteria has to be developed for identifying priority area.

In taking up ecodevelopment activities, it is important to realise that there is a danger in concentrating economic development activities on the periphery of the Reserve as these can act as magnets for the rural populace in other parts of the region. If ecodevelopment interventions result in attracting more and more outside people to the periphery of the Reserve, then they would militate against, rather than for, the conservation of these Protected Areas. Therefore, the project sites have to be chosen keeping this in mind.

As the objective of the exercise is to protect the Reserve, as a first priority those problems and area need to be selected which pose the greatest threat to the protected area. However, proper assessment needs to be made of the resources available, so that the selected problems can be sustainably managed and not left half tackled when the funds run out.

Obviously, success in the initial stages would not only encourage those involved with the activity but also encourage other villages to be receptive to the programme. Therefore, in the first phase, those villages should be selected where there is a good chance of success. A strong indicator of this

is the availability of non governmental and community organisations active in the area.

The willingness of the villagers for participating, in fact running, the programme, is also crucial to its success. Villagers' enthusiasm, or the lack of it, should also be a strong criterion for village selection.

Broadly speaking, everything else being equal, it is easier to establish ecodevelopment activities in areas where forest land for joint forest management, or other waste land, is available to develop alternate sources of biomass. Therefore, at least a part of the initial activities should be started in and around villages with such land.

The linking up of ecodevelopment activities with other development schemes is always an advantage. This not only often provides supplementary resources, but can also reduce the environmental damage that many of the schemes of other sectors cause unknowingly. Therefore, the existence of such schemes must be an important criterion for village selection.

In the ultimate analysis, the selection of the villages where action will first be taken up can only be done once the quantum of funds and the project duration are finalised, so that the best use of the time and money can be achieved.

B. SUMMARY DESCRIPTION

The project involves the following activities:

1. Micro-level ecodevelopment planning
2. Initiation of ecodevelopment activities aimed at environmental conservation, biomass generation, income generation and protected area management.
3. Human Resources Development
4. Research and Development
5. Environmental education and awareness
6. Monitoring

In addition, the following activities will be prior or concurrent to and supportive of the project, but not a part of it.

1. Preliminary, indicative, Planning (Prior; Ministry of Environment and Forests / State Forest Department / Indian Institute of Public Administration).
2. Ecodevelopment training for field Director/other officers (Prior; Wildlife Institute of India).
3. Management Planning (Prior and concurrent; State Forest Department / Wildlife Institute of India).

C. DETAILED DESCRIPTION

1. PROTECTED AREA MANAGEMENT

Ecodevelopment planning and management planning, for any protected area, must go hand in hand. There must be a clear interface between the management plan, specifying managerial and protection objectives and strategies within the protected area, and the eco-development plan which identifies strategies to divert human pressure.

Just as management without eco-development is often futile, so is eco-development without proper management. The formulation and execution of an adequate management plan is not only a prerequisite for proper eco-development, for it is the management plan which specifies the Reserve priorities, it also ensures that the gains from eco-development in terms of reduced pressures are consolidated for the betterment of the protected area.

The initiation of an eco-development project should, therefore, be preceded by the process of drawing up a management plan and the allocation of adequate funds to implement it. Fortunately, for this Reserve a reasonably comprehensive and recent management plan exists.

There is also a need to set up processes and institutions that can ensure the increasing involvement of the local people in the planning and management of the protected area.

The Reserve is an area with low to high pressures. The concentration of population adjacent to the northern boundary is very high whereas in others areas including the villages falling in the Reserve have medium to low concentration.

Impact of villages on the Reserve:

There is considerable impact of people on Palamau Tiger Reserve. The following major economic activities of the people exert pressures on the Reserve:-

1. Grazing of cattle and goat
2. Collection fuel, smallwood
3. Collection of Minor Forest Product
4. Felling of timber, smallwood and bamboo
5. Kindling fire
6. Poaching

The villagers keep large number of uneconomic cattle but they do not have their own common or village grazing ground. Similarly, they do not have their own fuelwood, smallwood, timber and Minor Forest Produce resources to meet even their domestic use. Therefore, for all these resources they depend on the nearby forests. Kindling of fire by villagers is for getting new flush of grass blades for their cattle and also to press for their employment in fire fighting and other works. Poverty and unemployment, to some extent greed, forces them to indulge in poaching and illicit felling. Whereas illicit felling is localized near north eastern boundary, cases of poaching occur here and there.

Possible future impact of the people on the Reserve could be augmentation in degree of above pressures on account of population growth and to some extent submergence of forest areas due to two large irrigation projects.

The impact of the Reserve on the villages:

1. Restrictions imposed on them on enjoyment of their traditional rights and concession on the resources of the Reserve.

2. Crop damage by elephants, deers, bisons, boars, monkeys, porcupines etc.
3. Cattle killing or injuring by carnivores
4. Occasional human injury or death due to wild animals, particularly elephants.
5. Occasional damage to other properties.

The villagers do not have their own or community biomass resources and their right-burdened forests have depleted due to over-utilization. It is more a case of fringe areas.

The loss of life and property by wild animals is compensated by the Reserve authorities if such incidents occur in the Reserve. The loss of human life outside the Reserve is also compensated by the concerned authorities. There is a provision for compensating crop damages even outside the Reserve but the concerned authorities generally lack fund for it. However, loss of cattle and other properties outside the Reserve remains uncovered. Even in those cases of losses for which compensation is paid, the amount is less than the real value of the loss. These are the causes of villagers' resentment towards the Reserve.

The major pressures and management issues in the Reserve are:

1. Disturbance due to headloading, grazing, collection of small timber and minor forest Produce, encroachment pressure from the adjoining villages.
2. Pressure due to 3 Core Zone villages,
3. Occassional forest fire and poaching.
4. Crop depredation by wild animals, particularly elephants.
5. Cattle killing by carnivores.
6. Disturbance likely to be caused by the on-going North Koel Dam project on its completion and the proposed Auranga Reservoir project.

In addition some of the management issues that need consideration are:

7. Promotion of appropriate and limited tourism and interpretation for the Reserve.
8. Research and Monitoring.
9. Extension and education.

PRESSURE FROM BUFFER ZONE VILLAGE:

There are basically two types of pressures. The greater pressures are for income generation through collection and sale of fire wood, small wood, timber and minor forest produce. These are sought to be relieved with the development of alternate income generating activities and through the support of the villagers in stopping these practices. The second type of pressures are for bio-mass, especially fodder, small timber, bamboo and other forest produce for bonafide domestic use. Alternate sources, through agro-forestry, plantation and regeneration, for their requirements are being developed under the ecodevelopment project. Also the local people themselves will be employed to protect the Reserve against such activities.

The Reserved Forests constituted after 1923, Old Protected Forests, Khalsa Forests and New Protected Forests (Ex-Zamindari Forests), all are burdened with major or minor rights of the tenants. These rights and concessions are in respect of fire wood, poles, timber, bamboo, fencing materials, flowers, fruits, etc., for their domestic use. These rights are vital for their sustenance and it will be

impractical to withdraw or extinguish them all of a sudden.

Grazing is one of the serious concerns of Palamau Tiger Reserve as the people in and around are in habit of keeping large number of cattle which are inferior and uneconomic, primarily for cow-dung manure and plough-power. These large number of cattle and their haphazard grazing in the forest area where grazing is allowed, leaves adverse impact on the vegetation. As grazing has been going on for decades, arguably the ecosystem has adapted to it. Therefore, there appears to be no urgency to stop it abruptly. Over the years, the number of cattle has increased. It is, therefore, important to control the number of inferior cattle in the area and to ensure that grazing is restricted and scientifically controlled and rotated. The management initiatives envisaged are regulation of grazing on rotational basis in forest areas where grazing is allowed at present, and development of fodder and water resources in these areas. A process of voluntary reduction in number of cattle or their replacement by superior and economic breed of cattle, and the habit of stall feeding will be encouraged in return for ecodevelopment inputs of their choice.

CORE ZONE VILLAGES

The activities of the Core Zone Villages in respect of fire wood and small wood collection, grazing and interaction with outside population extends beyond the limits of settlement area, thereby affecting surrounding forests which are rich in floral and faunal diversity. Being forest villages, they have been deprived of the benefits being extended to revenue villages. There has been a proposal of relocating these villages outside the Reserve. Two out of these three villages have shown their willingness to shift outside the Reserve.

Though these villages have some adverse impact on the Reserve, they can be properly managed to remove the bad impact. These villagers are in a sense, asset to the Reserve as they supply vital labour force for fire fighting besides other wildlife management activities and preventing poaching at short notice, since those parts of the Reserve do not have villages nearby to supply labour workers. Therefore they can be allowed to stay there if they want and when they themselves want to shift out, rehabilitation package can be provided to them.

FIRE AND POACHING

Fire is another important concern of the Reserve. Most of the fires are intentional and are caused by the villagers either for getting new flush of grass blades or to press for their employment. It is expected that with the progress of ecodevelopment activities, incidence of fire will go down drastically on account of increased fodder availability and employment opportunities.

There has been reports of occasional poaching of wild animals by local people. Where as, in view of the size of the Park and its infrastructure, it will be impossible to totally stop the sporadic cases of poaching, efforts have to be made so that this does not become too frequent or organised commercial poaching.

Monitoring network of the Park would be strengthened with the involvement of the local people as anti-fire and anti-poaching squads. There would be more frequent patrolling and better communication.

CROP DEPREDATION

Though the incidence of crop depredation by wildlife, particularly elephants, is not very high, with the inputs through the proposed ecodevelopment activities, the value and production of crop in the region is expected to increase significantly. Various measures have been envisaged for the protection of crops which include provision for crop-watchers, supply of materials, elephant proof fencing of the frequently affected villages, etc. However, compensation for crop damage will have to be paid to all the affected villagers as long as their crops are destroyed, as is being done at present for villages located in and adjacent to the Reserve..

CATTLE KILLING

Killing of cattle by carnivores is another irritant between the villagers and the Reserve. However, each cattle killed or injured by the wildlife is being compensated at present.

PRESSURE DUE TO NORTH KOEL DAM AND AURANGA

RESERVOIR PROJECT.

There are two major irrigation projects, the North Koel Dam Project and the Auranga Reservoir Project. Whereas the latter is in proposal stage, the former is nearing its completion. The gates of this dam is going to be closed in near future which would submerge many parts of the Reserve over which the villagers enjoy various rights and concessions at present. Under these circumstances following submergence, fresh area of the Reserve near submergence would come under pressure from the affected villages in respect of their biomass needs. However, the alternate sources of biomass envisaged to be developed under the ecodevelopment project would protect such fresh areas of the reserve from coming under human pressure.

TOURISM AND INTERPRETATION

There is a potential and also desirability of promoting proper tourism in the Reserve. Apart from providing employment opportunities to the local people, especially as tourist guides, and by providing accommodation and food to the visitors, it would also benefit the Reserve to have an increasing number of supporters committed to its

conservation. For the purposes, it is proposed to develop the existing trek routes and nature's trails in the buffer including tourist zone so that they can be used by the tourists on foot. Some of the villages in that zone could be the location for visitors' stop over managed by the local people. Similarly, the Nature Interpretation Centre which has come up at Betla, may provide limited employment opportunity to few local persons as Nature Interpreters.

RESEARCH AND MONITORING

The research activities related to the management of the Reserve has so far remained neglected for want of infrastructure and manpower. Some research facilities including research centre out side the Reserve could be set up to facilitate management and ecodevelopment related research and monitoring. Organisations like the Wildlife Institute of India, the Bombay Natural History Society, the World Wide Fund for Nature (India), Nature Conservation Society and local University Departments could be invited to collaborate with the Reserve authorities in research and monitoring activities.

EXTENSION AND EDUCATION

The people living in and around the Reserve have a lot of knowledge about the fauna and flora of the Reserve. It is important to record these information and make them available to research scientists, visitors and the world at large. The informations could be the local names of plants and animals and their behaviour patterns as well as utilities, changes which have occurred in the area over the years, religious and cultural significance of the trees, flowers, animals, rocks etc., among other things in the Reserve and myths surrounding them.

Similarly, there are many things that modern science has revealed, which should be shared with them. These discoveries could be the meaning and value of bio-diversity, western systems of classifying plants and animals, geology and hydrology of the area and the significance and value of the Reserve in the regional, national and global context.

A dynamic system of educational exchange will be set up to learn and inform. Also, an environment education programme, with school-goers as target group, will be launched for educating them as well

as sensitizing their fellow non-school-going children and parents about local, regional, national and global environmental issues and remedies thereof.

2. ECODEVELOPMENT

Each of the proposed ecodevelopment activities are being listed below, along with their descriptions, the basis and rationale for selecting the particular activity, which of the impacts on the protected area it is expected to mitigate, how much and what segments of the population would it cater to, its phase and duration, any prerequisites to its success, and the costing. The calculation of the costing and number of beneficiaries has been made on the basis of standard village units. The number of units is 188, each with 110 households on an average.

Activities for ecodevelopment have been categorised under the following broad heads:

Activities for Development of Transport and Communication to increase access to markets, income generation and for getting support and co-operation of the local people.